1: Conzemius M-4, 5 (1921) 1932
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412 met with in certain parts of South America. The ordinary stone ax may also have been utilized as an adze by merely shifting the handle fixation from a vertical to a horizontal plane.

HOE.—In many huts a hoe can be found nowadays; it is used on the fields and in clearing away the grass and weeds growing in front of the dwellings. The hoe is of recent introduction and is known by its English name (u).

KNIFE.—Large knives (M.: *skiro*, *kiswo*, from the Spanish "cuchillo"; S.: *kohbil*) now form part of every household.

252 SUGAR MILL.—A primitive sugar mill (M.: *trañko;* T., P.: *tisnak tñlnin;* U.: *tisnak panka*) is employed by these Indians to squeeze the juice out of sugarcane. A stout post is buried partly in the ground, so that it will reach about 3 or 4 feet above the surface. Close to its upper extremity a wooden slab is mortised in and wedged tight. Just above this slab, which looks like a small platform, there is a hole in the post, where a stout bar (M.: *mihta;* S.: *tiñ*) fits loosely. One of the women lays a piece of cane on this "platform," her husband inserts the pole in the hole and presses downward, crushing the cane, whereupon the juice flows into a receptacle placed on the ground. The woman slips the cane forward until every part of it is crushed, and finally twists it like a rope to wring out all the juice.

252 171 This mill is common in the regions bordering on the Caribbean Sea. Several mills of this type, found in South America and on the Isthmus of Panama, have been figured by Nordenskiöld.[24] It is well known that sugarcane was introduced into the New World by the Spaniards; still this type of mill is never met with among the whites. On the other hand, the negroes of eastern Central America and the Bush negroes of Guiana use it commonly, more so than the Indians themselves. According to the prominent African specialists Seligman and Lindblom, sugar mills of this type are not met with in the Dark Continent. Neither are they known from Melanesia. Nordenskiöld[25] believes, therefore, that this implement has been invented by American Indians in post-Columbian days, when they had become acquainted with sugarcane. In view of the fact that this sugar mill is more common among the negroes than among the Indians, I am inclined to believe that it is a post-Columbian invention made in America (probably in the West Indies) by negro slaves, who were largely employed on the sugar estates. Even to this day it is not met with among the Sumu of the interior, who crush the canes in primitive wooden roller mills turned by handspikes (cf. Wickham, b: 216; c: 206).

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[24] Comparative Ethnographical Studies, vol. VIII, Göteborg, 1930, pp. 80–84, figs. 39–42.

[25] Ubi supra, p. 82.

1: Conzemius M-4, 5 (1921) 1932
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CULINARY ARTS: METHODS OF FOOD PREPARATION

262 These Indians obtain their food from agriculture, hunting, fishing, and by gathering the wild fruits of the forest. Among the Miskito living near the coast the staple food is sweet cassava, but in the other regions of the country its place is occupied by bananas; among the Sumu maize also plays a great rôle.

252 While at home the men never do any cooking and would consider such an act beneath their dignity, but after the return from the chase they barbecue the meat which is not to be consumed immediately.

261 The Indian has an enormous appetite when there is plenty of food, especially fish and meat, at hand; on the other hand, in case of food shortage, they are able to travel and work with scarcely anything to eat.

264 SERVING OF THE MEAL.—No regularity is observed in eating, but food may be taken at any time. When the meal is ready the grown-up men are served first in their hammocks with the best and largest shares. A calabash of broth or soup (M.: *pilali;* S.: *di wasni, di waska*) and a bijagua leaf containing salt is also taken to them. The women and children eat together; they sit on the ground, forming a circle around the remainder of the food, which is spread upon a layer of large leaves. There is, as a rule, little left when the men have been served, but the women and children have taken their share previously. While the pot is boiling they crowd around the fire, and keep on eating little bits of meat together with plantains or bananas roasted in the hot ashes. The Indians do not speak much during meals; a visitor is never questioned while he is eating, as that would be a breach of etiquette.

262 [252] ANIMAL FOOD.—Meat and fish are either boiled with water or roasted in the hot ashes. The meat is obtained from the chase; the Miskito living on the edge of the savannas also own cattle which they slaughter for meat. Other domestic animals, as pigs and fowls, are seldom eaten, but are commonly sold to strangers; this is also the case with fowl eggs. The Indians, as a rule, do not care much for the flesh and products of animals of foreign origin. Certain indigenous animals are taboo. The favorite meat of both tribes is the red monkey (*Ateles* sp.) and the white-lipped peccary (*Tayassu* sp.).

262 252 The Sumu sometimes eat frogs (M.: *burka;* S.: *burka, burki*), removing their skin first in the hot ashes; to the Miskito this amphibian is taboo. Birds' eggs are eaten, even when they are practically rotten, but the eggs of the domestic fowls are not esteemed. The winged females of the leaf-carrying ants (*Atta cephalotes* syn. *Oecodoma cephalotes;* M.: *wiwi;* S.: *isdaŋ*) are also caught when

1: Conzemius M-4, 5 (1921) 1932
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seeking new colonies; their abdomen is roasted and eaten by both tribes.

Small fish is wrapped in bijagua leaves and roasted in the hot ashes. This procedure is the usual one while away from home when there is no cooking pot at hand. Fish prepared in this manner has an exquisite taste, for all the savor is preserved. Such a leaf parcel is called *kakati* by the Miskito and *wiwana* by the Sumu. The Miskito living near the sea also fry fish in coconut oil. The latter is obtained by grating the nut and boiling the milk until the oil rises to the top, when it is skimmed off.

ANTHROPOPHAGY.—It is very probable that in former days slaves captured from the enemy tribes were occasionally an article of diet among Miskito and Sumu. There is no lack of proofs that cannibalism existed among the Sumu. It was reported by Columbus in 1502 from the region between Cabo Honduras and Cabo Gracias a Dios. In 1612 the Twahka killed and devoured a party of Spaniards (Conzemius, b: 27). Later, during the second half of the seventeenth century, a buccaneer was roasted and eaten by the Kukra of Corn Islands (Exquemelin, Engl. ed.: 114). A Spanish document from 1739 or 1740 states that the Tuñla Indians used to capture Christians in order to fatten and then eat them.[85] M. W. (305) tells us that the Ulwa first drew out the finger and toe nails of their unhappy victims, while the latter were still alive, and knocked out their teeth with stones. Then they roasted them over a framework of green sticks. They considered this food the best of all.

Cannibalism was, however, probably a ceremonial custom, a ritual of vengeance. The body of the enemy was mutilated and cut to pieces, in order to destroy him entirely. The hair, teeth, and nails were extracted and carried as necklaces, as particularly magical virtues were attributed to these body parts. To eat an enemy was indeed considered the most profound of all insults, for by such an act he would be destroyed, not only for this world, but also for the hereafter.

PRESERVING MEAT AND FISH.—After a successful chase the meat which is to be preserved for some time is placed on a low stage or framework (M.: *trin;* S.: *pala, lim*) of green sticks, and slowly barbecued by the action of a fire lighted underneath, assisted by the rays of the tropical sun. No salt is added to it. From time to time it is turned. This fire is kept up for several days, after which the meat becomes nearly as dry as our smoked beef.

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[85] Noticias estadísticas del Reino de Guatemala, Guatemala, vol. II, No. 32, Oct. 10, 1807.

1: Conzemius M-4, 5 (1921) 1932
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Fish may also be preserved by drying it in the sun, after having cleaned it and rubbed salt into the scraped flanks.

VEGETABLE FOOD.—Vegetables, such as cassava, sweet potatoes, tania, yams, green bananas, and plantains, are either boiled in water or (occasionally in coconut milk) with meat or fish, or they are roasted in the hot ashes. Cassava prepared by the last-named process is called *bulbul* by the Miskito.

The fruit of the pejivalle palm is also boiled in water, after which the skin is easily removed. Inferior varieties of this fruit are generally mashed and consumed in the shape of a beverage, either soured or fermented.

A sort of bread (M.: *tani;* S.: *dipis*) is also made. Dry maize is ground on the metate with the addition of a little water. It is then wrapped in large bijagua leaves after the manner of the "tamales" of the Ladinos. A few days later when this mass has turned sour it is baked in the embers. The Sumu also bake it occasionally, immediately after grinding the maize, without allowing it to turn sour; it is then known to them by the name *pan* (from the Spanish "pan"). The Ulwa make this bread generally from unripe maize.

The pith or "cabbage" of various palms (*Attalea, Chamaedorea, Euterpe, Iriartea, Oreodoxa*) may be eaten either pickled or cooked; it is slightly bitter in taste. The pith and the small acid fruits of the pingwing or piñuela (*Bromelia pinguin* L.; M.: *ahsi;* S.: *ahsi, wakari*) are also esteemed. In times of scarcity the tender young bamboo shoots are also cooked and eaten.

The leaves of a small wild-growing plant, called cucumber or calaloo (*Phytolacca decandra* L.), are occasionally eaten as "spinach" by the Indians, who have taken this habit from the Creoles and Negroes. The common name "calaloo" for this plant savors of African origin; the Miskito call it *tilba pata* "tapir food." Indians and Ladinos use the leaves sometimes as soap, hence the local Spanish name "jaboncillo."

WILD FRUITS.—The Indians also collect the fruits of a number of wild-growing trees, of which the following are the most important for food: Hog plums (*Spondias lutea* L.; M.: *pahara;* S.: *walak*), nances or nancitos (*Byrsonima crassifolia* H. B. K.; M. and S.: *krabo, karabo*), zapotes or mammee apples (*Lucuma mammosa* Gaertn.; M.: *kuri;* S.: *sipul*), sapodillas or naseberries (*Sapota zapotilla* Coville; M.: *iban;* S.: *iban, sabakan*), guapinol or locust trees (*Hymenaea courbaril* L.; M.: *lâwa, laka;* S.: *tipi*), several species of dwarf guavas (*Psidium* sp.; M.: *kru;* S.: *kuru, arayañ*), breadnut tree (*Helicostylis ojoche* K. Sch.; M. and S.: *pisba, tisba*), monkey apple (*Moquilea platypus* Hemsl.; M.: *puramâwa;* S.: *lasat*), beach or sea grape (*Coccoloba uvifera* L.; M. and S.: *waham*), icaco or coco plum (*Chrysobalanus icaco* L.; M. and S.: *towa*) and several species of granadillas or fruits of passion

1: Conzemius M-4, 5 (1921) 1932
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flowers (*Passiflora* sp.; M.: *drap, tutbuñ;* S.: *wahluluñ, suñsuñ, wahamtari*).

ENSILAGE.—A sort of ensilage is occasionally made by the Miskito of various foodstuffs, as green bananas or plantains and pejivalles, and by the Sumu of boiled maize. Such food is known by the name *bisbaya;* it may be kept for six months, or even longer.

Green bananas or plantains are peeled and buried in the ground upon a layer of large bijagua leaves and then covered up with another layer of leaves and earth. The Indians claim that no worm will get into the food when the work has been done carefully. The whole is not uncovered until required for food. The fruit retains its natural whitish color, but will turn black immediately upon exposure to the air. *Bisbaya* is consumed either in the shape of a beverage, after being boiled with water, or it is baked between leaves into a sort of bread (M.: *bisbaya tanka;* S.: *bisbaya pañni*). [88]

The fruit of the pejivalle palm, which has been stored in this manner, is always taken in the shape of a drink. It is boiled again, when taken out of the soil, mashed, strained, and mixed with wabul.

The Sumu rarely make use of this manner of preserving food, except for maize. The latter is steeped in lye of wood ashes to remove the outer skin, and then buried for a few months. After being taken out of the ground it is preserved in baskets over the smoke until needed as food. These various kinds of *bisbaya* all have a very offensive odor, which may be smelled from a great distance.

Another manner of ensiling is practiced more frequently by the Sumu. Maize or bananas from which the skin has been removed are placed in running water until they partially ferment, and are then dried in the sun. For this purpose they are made into large leaf parcels and deposited in the neighboring creek. This sort of food (M. and S.: *kwakwa, tahra, tulis*) has also a somewhat disagreeable odor.

FOOD ADJUNCTS: NARCOTICS, STIMULANTS, EXCITANTS, ETC.

TOBACCO (*Nicotiana tabacum* L.).—The sukya uses tobacco as a narcotic in order to throw himself into a condition of wild ecstasy; during such an abnormal conditon he is supposed to enter into relations with the spirits. He also blows tobacco smoke over the sick persons in order to purify them.

[88] Bell (b: 27) states that the Creoles of Bluefields made plantains into "foofoo," that is, cut up, put into large baskets, and buried in the earth until partially rotten, then dried in the sun and made into flour. The name "foofoo," corrupted by the Miskito into *pupu*, is now applied to green bananas or plantains which have been cooked, mashed, and formed into the shape of tamales.

1: Conzemius M-4, 5 (1921) 1932
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263 or 1668 among the Indians (Sumu or Paya) living around Rio Guampú in Honduras.[a]

VANILLA.—Sloane (a: p. LXXVIII) gives an account of the method practiced by the Miskito in curing vanilla (*Vanilla planifolia;* M. and S.: *diti bâinia*). The present-day writer has not observed that the Indians make any use of the pods, except in flavoring a drink prepared from cacao and maize.

249 ANNATTO.—Annatto (M.: *dûlala, tmariñ;* S.: *aval*) is cultivated
263 chiefly for the face pigments furnished by the red coloring matter
177 surrounding the seeds; it is not used as a condiment, except in isolated cases, where this habit has been introduced by the Ladinos.

252 COOKING OILS.—The kernels contained in the seeds of various palms are made into oil, which is occasionally used in the kitchen. The most important one is that extracted from coconuts. The nut is grated and then boiled, the oil being skimmed off as it rises to the top. The seeds of the corozo (*Attalea* sp.), bone or oil palm (*Elaeis melanococca* Gaertn.), huiscoyol (*Bactris horrida* Oerst.), and the kahka palm are also opened occasionally to extract oil from the kernel. Cooking oil is also furnished by the red fruits of a forest tree (M.: *yari;* S.: *yara*), and by a small shrub called *wari-klua* by the Miskito.

263 SWEETENING FOOD AND DRINK.—Previous to the introduction of sugar-cane the Indians had to rely upon ripe bananas or plantains and wild honey to sweeten certain food beverages. Now sugar-cane juice is boiled into sirup or brown sugar. As soon as the juice has been squeezed out it is poured into a large pot on the fire; as the heating progresses a scum arises which is skimmed off with the aid of a calabash shell pierced with holes and attached to a long stick. When sufficiently thick the brown liquid is poured into bottles and kept until needed. For the making of sugar the juice has to be boiled somewhat longer; finally it is poured into wooden molds where it crystallizes.

VARIOUS.—The round berries of the allspice tree (*Pimenta officinalis*), which grows wild in the forest, are gathered, dried in the sun, and used to flavor certain beverages.

Black pepper and cinnamon have also been introduced into the native kitchen; both of these commodities are bought in the local shops.

276 The chewing of coca, which was a current habit among the Nicarao of the Pacific coast of Nicaragua at the time of the conquest, appears to have been unknown on the Mosquito Coast.

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[a] "Hacen sal de unos árboles que hay en aquellas montañas, a manera de coyol o coco; rajan este árbol, haziendo astillas, quemanlo, hacen ceniza, hacen de ella legía; esta en una olla grande la echan, sola la legía sin la ceniza, y a fuego manso la van calentandio hasta que se convierta en sal; es muy blanca, pero no tan fuerte como la que usamos." (Serrano y Sanz: 368.)

2: Kirchhoff E-4 (no date) 1948
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Harpoons with floats attached are used for large fish and for manatees, the latter being taken in the lagoons and at sea. Harpoons with long retrieving lines but without floats are used for sea turtles. The *Sumo* lasso young crocodiles.

Domesticated animals.—No early source mentions dogs, but they are now common. Pigs, sheep, goats, cattle, horses, and cats have been introduced. The people tame a great variety of wild birds and several species of mammals. The latter are even suckled by the women. Species of native bees are kept in hives near the houses.

Food preparation.—Food may be boiled, sometimes in coconut milk. Meat and fish are broiled or roasted in hot ashes, and fish may be fried in coconut oil. The *Paya* fry green pineapple. Salt is used as a condiment but rarely as a preservative. Sauces of red peppers, lime, and salt are made by the *Mosquito*. The *Paya* use chili as a sauce or as a substitute for other food. Tamales are made of manioc. Maize dough, sometimes soured (*Mosquito*), is wrapped in leaves and baked. This and manioc dough may be made into tortillas, an item introduced into the region only in recent years. Manioc is made into bread, which is baked in the open fire.

Numerous beverages are made of liana sap, maize, honey, green plantains, and the like. Some of these are made of a sour paste, which is diluted with water before it is eaten. Such food is usually carried while traveling. Alcoholic beverages are prepared in canoes (*Mosquito*) or log troughs (*Paya*) and stored in earthenware pots. Fermentation is hastened in various ways, notably by chewing uncooked or cooked maize or manioc and spitting it into the mixture.

Preserving and storage of food.—Fish is dried in the sun and meat is dried on a three-legged babracot. The *Mosquito* make a mixture of green bananas and pejibaye palm nuts which may be kept for 6 months or longer. It can be made into a beverage or baked as bread. The *Sumo* preserve boiled maize by steeping it in lye to remove the hull and then burying it. The *Sumo* also make up large parcels of maize or peeled bananas, which are placed in running water until partially fermented, then dried in the sun. Live turtles are kept in stockades in shallow water.

VILLAGES AND HOUSES

Mosquito villages (pl. 35, *bottom*) had between 100 and 500 inhabitants. *Sumo* villages appear to have been much smaller. Formerly, communal houses, called "palenques," had compartments for each family. Some were about 40 by 80 feet (about 12.5 by 25 m.); smaller communal houses were built by the *Mosquito*. *Sumo* houses had an elaborately carved central post. House plans were rectangular, the ends being rounded, elliptical (*Paya*), or circular (*Mosquito* of Honduras). At the present

3: Pijoan D-5 (ca. 1945) 1946
SA15 Mosquito SA15

252 Meat and fish are either boiled in water or roasted in hot ashes.
262 The favorite meats are red monkey and white lipped peccary. Birds eggs are eaten, even if partially rotten but the eggs of domestic fowls are seldom used. Bananas are cooked in many ways depending to a great extent on the degree of ripeness. Fish are wrapped in bajagua leaves and roasted or fried in coconut oil.

Vegetables such as cassava, sweet potatoes, tania, yaws, green bananas and plantains are either boiled in water or placed with the meat for roasting. The pith or "cabbage" or various palms are also cooked and eaten and other wild fruits are used raw when in season A sort of bread is made from time to time by grinding dry maize in a metate and adding water. The mixture is then wrapped in bijagua leaves and allowed to stand for several days during which time it ferments. It is then baked in embers.

A sort of ensilage called *bisbaya* is made by the Indians and consists chiefly of green bananas, plantains, and pejivales. These are peeled and buried in the ground, covered layer by layer with bijagua leaves and the ensilage is not uncovered until required for food. The fruit retains its whitish natural color and turns black only after exposure to air. These food supply units have been known to last for years. Bisbaya may be consumed as a beverage after being toiled with water or it may be baked in leaves as a sort or bread. The fruit of the pejivalle palm is treated in a similar manner.

252 Various species of pungent small wild peppers are used with food
263 as a seasoning. The peppers are mashed with lime juice and little salt to make a sauce which is stored in containers and used at meals to replace salt. Besides the use of peppersauce the ashes of burned palms are often used to replace salt and in fact have a high salty flavor. Vanilla is used to flavor a drink prepared from cacao and maize.

262 The eating of earth and charcoal (geophagia) is common among women and children and the exact physiological effect is unknown. Milk from domestic cows is common and is usually consumed as it sours or converted into a cheese.

The Indians are fond of foods that have soured or spoiled a little
[273] and often allow many decoctions to ferment; distilled liquors, however, are unknown.

221 *Seasonal intake of foods.* Meat, fish, fowl, cheese and milk are con-
262 sumed daily throughout the entire year but consumption of vegetables and fruits is seasonal.

January	*Aladi cati, Inupu cati:* bastard cedar flowering time. Citrus fruits in quantity, avocadoes, melons, nuts.